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**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:**

Claim 1 (currently amended): A resonator comprising:  
a multi-layer substrate having an upper and lower surface and including at least two conductor layers which include at least two grounding conductor layers and a plurality of dielectric layers, one of the at least two grounding conductor layers being disposed on the lower surface of the multi-layer substrate;  
a strip line disposed between the at least two grounding conductor layers;  
a microstrip line disposed on the upper surface of said multi-layer substrate; and  
a through hole formed in said dielectric layers to connect said strip line to said microstrip line; wherein  
portions of the one of the at least two grounding conductor layers that is closest to said microstrip line are omitted; and  
one of the omitted portions is aligned with the through hole and another of the omitted portions is aligned with the microstrip line.

Claim 2 (canceled).

Claim 3 (currently amended): A resonator according to Claim 1, wherein said omitted portions define openings in said one of the at least two grounding conductor layers.

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Claim 4 (currently amended): A resonator according to Claim 3, wherein said at least one of the openings have-has one of a substantially rectangular shape and a substantially square shape.

Claim 5 (original): A resonator according to Claim 1, wherein said strip line has a substantially U-shaped configuration.

Claim 6 (original): A resonator according to Claim 1, wherein the resonator comprises only one said strip line.

Claim 7 (original): A resonator according to Claim 1, wherein the resonator comprises only one said microstrip line.

Claim 8 (currently amended): A resonator comprising:  
a multi-layer substrate having an upper and lower surface and including at least two conductor layers which include at least two grounding conductor layers and a plurality of dielectric layers, one of the at least two grounding conductor layers being disposed on the lower surface of the multi-layer substrate, and one of the at least two grounding conductor layers that is closest to said microstrip line has openings formed therein;

a strip line disposed between the at least two grounding conductor layers;  
a microstrip line disposed on the upper surface of said multi-layer substrate; and  
a through hole formed in said dielectric layers to connect said strip line to said microstrip line; wherein

one of the openings is aligned with the through hole and another of the openings is aligned with the microstrip line.

Claim 9 (canceled).

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Claim 10 (currently amended): A resonator according to Claim 8, wherein said at least one of the openings have-has one of a substantially rectangular shape and a substantially square shape.

Claim 11 (original): A resonator according to Claim 8, wherein said strip line has a substantially U-shaped configuration.

Claim 12 (original): A resonator according to Claim 8, wherein the resonator comprises only one said strip line.

Claim 13 (original): A resonator according to Claim 8, wherein the resonator comprises only one said microstrip line.

Claim 14 (currently amended): A voltage controlled oscillator comprising:  
a resonator including:  
a multi-layer substrate having an upper and lower surface and including at least two conductor layers which include at least two grounding conductor layers and a plurality of dielectric layers, one of the at least two grounding conductor layers being disposed on the lower surface of the multi-layer substrate;  
a strip line disposed between the at least two grounding conductor layers;  
a microstrip line disposed on the upper surface of said multi-layer substrate; and  
a through hole formed in said dielectric layers to connect said strip line to said microstrip line;  
wherein portions of the one of the at least two grounding conductor layers that is closest to said microstrip line are omitted;

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one of the omitted portions is aligned with the through hole and another of omitted portions is aligned with the microstrip line; and

a plurality of electronic component elements disposed on the upper surface of the multi-layer substrate and arranged to define a circuit.

**Claim 15 (original):** The voltage controlled oscillator according to claim 14, wherein the plurality of the electronic component elements and the resonator are electrically connected to each other.

**Claim 16 (canceled).**

**Claim 17 (previously presented):** The voltage controlled oscillator according to claim 14, wherein said omitted portions define openings in said one of the at least two conductor layers.

**Claim 18 (currently amended):** The voltage controlled oscillator according to claim 17, wherein said at least one of the openings have has one of a substantially rectangular shape and a substantially square shape.

**Claim 19 (original):** The voltage controlled oscillator according to claim 14, wherein said strip line has a substantially U-shaped configuration.

**Claim 20 (original):** The voltage controlled oscillator according to claim 14, wherein the voltage controlled oscillator comprises only one said strip line.

**Claim 21 (original):** The voltage controlled oscillator according to claim 14, wherein the voltage controlled oscillator comprises only one said microstrip line.